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EXAMINER				
CROWE, DAVID R				
ART UNIT		PAPER NUMBER		
2885				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOCommunications@hoffmanwarnick.com

Office Action Summary

Application No.

10/572,199

Applicant(s)

SCHOEN ET AL.

Examiner

DAVID R. CROWE

Art Unit

2885

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The amendment to the claims filed on 10/19/2009 has been entered.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 56 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. This claim is an omnibus type claim. The claim is dependent on claim 53 which lists the possible sensors in a group including the term "consisting" which presents a closed group. The examiner can not determine the intended scope of the new claim and whether it further limits one or all of the sensors in the group of claim 53. A standard sensor indicates that the sensor itself is not new or novel. Further the claim is indefinite since the "automation technology" is not defined sufficiently to limit the device.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 29-36, 38, 43, 44, 47, 48, and 50-57 are rejected under 35 U.S.C. 102(e) as being anticipated by Paulsen et al (US 7,442,125).

5. Re claim 29: Paulsen discloses a sensor [control processor 210 senses an output from the game processor 204] comprising a plurality of switching states; a plurality of different colored lighting devices [red, green and blue LED in each stage 411-413, figure 3] for the optical transmission of information regarding the sensor, each lighting device having at least one lighting element; and a sensor casing [526] including a transparent casing part for receiving the lighting elements and for avoiding cross talk in the case of simultaneously active lighting elements; and at least one optical interface [560] subdividing the transparent casing into segments [411-413] in which the lighting elements are received, wherein each segment is associated with at least one of the lighting elements; wherein each of the plurality of switching states of the sensor corresponds to a unique combination of zero or more of the plurality of lighting devices having an active at least one lighting element; and wherein the transparent casing part is constructed and positioned so that the lighting devices are visible by a user from each azimuth angle within a polar angle range.

6. Re claim 30: The lighting elements of Paulsen [551] consist of LEDs.

7. Re claim 31: At least one light emitting device [502] includes a plurality of lighting elements [551] that are placed on opposing sides of the transparent casing part [526].

["opposing sides" is interpreted as across an imaginary center line since as shown in figure 8 of the application, "opposing sides" does not appear to mean inside and outside the casing [14].]

8. Re claim 32: The lighting devices are placed on a printed circuit board [510] and are arranged in parallel [the lighting elements provide light in parallel beams and are arranged in a row in terms of a polar coordinate system around the center] to one another in order to illuminate a segment.

9. Re claim 33: The printed circuit board [510] with LEDs [551] in slid into the transparent casing part.

10. Re claim 34: The transparent casing [526] is a cylindrical casing and thereby interpreted to be "constructed for" terminal installation on a cylindrical casing.

11. Re claim 35: The lighting devices are visible to the user from a polar angle of 0 to 360 degrees and therefore includes the claimed range.

12. Re claim 36: The at least one optical interface [560] is interpreted as an "insert part."

13. Re claim 38: The transparent casing [clear glass tube 526, column 8 line 27] is colored [translucent, column 8 line 50] to avoid viewing inside the device.
14. Re claim 43: Paulsen teaches a rod [710] which may house electrical wires, thereby acting as a plurality of cable bushings, as part of the optical interface in connection with dividers [722].
15. Re claim 44: The casing [526] is interpreted as a compact end termination as the casing it located as a cable at the top end of a gaming machine.
16. Re claim 47: The transparent casing part [526] forms the sensor casing.
17. Re claim 48: Each segment [411-413] includes an optical interface [560] which is formed into the casing [526]. Regarding the formation by casting resin, the applicant is advised that, even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964, (Fed. Cir. 1985). In this case, the cited limitations failed to

distinguish the claimed structure from the patented lighting device of Paulsen. See MPEP § 2113

18. Re claim 50: Each segment of Paulsen includes at least one red, one blue and one green light emitting element. [See figure 3]

19. Re claim 51: At least one segment is constructed as an optical interface for an external computer means. [The combination of segments form a candle which emits light thereby providing an optical stimulus to the viewer for an external computer means [the gaming machine]].

20. Re claim 52: The transparent casing part [726] includes at least one optical bridge [a gap] that allows to a limited extent, light transmission from one segment into another since, for example the apertures in the interface disks [722] are slightly larger than the rod [710] extending there through.

21. Re claim 53: The sensor [210] is constructed as a sensor of electrical switching devices. [A processor having a plurality of transistors for switching and providing pulse width modulation [216].

22. Re claim 54: Paulsen discloses a device comprising: a sensor comprising a plurality of switching states [control processor 210 senses the output from the game

processor 204]; a plurality of different colored lighting devices [411-413] for the optical transmission of information regarding the sensor, each lighting device having at least one lighting element [RGB LED]; and a sensor casing [526] including a transparent casing part for receiving the lighting elements and for avoiding optical crosstalk, particularly in the case of simultaneously active lighting elements; and at least one optical interface [560] subdividing the transparent casing part into segments in which the lighting elements are received, wherein each segment is associated with at least one of the lighting elements; wherein each of the plurality of switching states of the sensor [210] corresponds to a unique combination of zero or more of the plurality of lighting devices having an active at least one lighting elements; wherein the device is constructed and positioned so that the lighting devices are visible by a user from each azimuth angle within a polar angle range. Regarding the claimed invention being "constructed for use in motor vehicles as part of at least one of a hand brake lever, a gear shift lever, a windscreen wiper lever, a direction indicator lever, a control button of an air conditioning system, a mirror adjustment button, a window regulator button or a sliding roof button," the applicant is advised that a recitation of the intended use of an invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). In this case, the patented structure of Paulsen was considered capable of performing the cited intended use.

23. Re claim 55: Paulsen discloses a device comprising: a sensor comprising a plurality of switching states [control processor 210 senses the output from game processor 204 and creates the combination of illuminated elements with distinct switching state combinations of the processor]; a plurality of different colored lighting devices [411-413], each lighting device having at least one lighting element [red, blue or green LED]; and a sensor casing [526] including a transparent casing part for receiving the lighting elements and for avoiding optical crosstalk when two or more lighting elements are simultaneously active; and at least one optical interface [560] subdividing the transparent casing part into segments in which the lighting elements are received, each segment [411-413] is associated with the at least one lighting element [red, blue and green] of only one of the lighting devices [411-413] [this amendment has not changed the scope of the claim, the elements are the emitters and the devices are the combination of emitters where each segment has only one combination of emitters]; wherein each of the plurality of switching states of the sensor corresponds to a unique combination of zero or more of the plurality of lighting devices having at active at least one lighting element; and wherein the transparent casing part is constructed and positioned so that the lighting devices are visible by a user from each azimuth angle within a polar angle range.

24. Re claim 56: As best understood, the sensor [210] should be considered a standard sensor in automation technology.

25. Re claim 57: The sensor casing [526] comprises a cylindrical shape [see figures 4-6], and wherein the sensor casing includes a transparent casing part at each of end of the cylindrical shape, where each end is interpreted as including the extreme portions of the circumferential surface of the cylinder and not limited to the top and bottom thereof.

Claim Rejections - 35 USC § 103

26. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

27. Claims 37, 39-42, 45 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paulsen. The teachings of Paulsen have been discussed above.

28. Re claims 37 and 40: Paulsen fails to suggest roughening the casing, [claim 37] or adding light scattering pigment [claim 40] to increase light scattering, however does suggest the casing may be translucent [column 8, line 50].

It would have been obvious to one of ordinary skill in the art at the time the invention was made that roughening a surface or adding pigment will render a transparent [clear glass] casing translucent due to scattering of light. One of ordinary skill in the art would be motivated to use a translucent casing to provide the appearance of even illumination across the entire casing surface.

29. Re claim 39: Paulsen teaches the casing as part of a gaming machine.

Paulsen fails to specifically suggest the casing as part of joystick.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use the casing as part of a joy stick, since the patented structure Paulsen discloses all of the limitations of the casing. Selecting a specific environment would amount to a recitation of the intended use of the patented invention, without resulting in any structural difference between the claimed invention and the structure disclosed by Paulsen, and therefore fails to patentably distinguish the claimed invention from the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). In this case, one of ordinary skill would be motivated to include the candle of Paulsen anywhere the creator wishes to draw attention.

30. Re claim 41: Paulsen teaches the use of reflective surfaces [565] to improve the leading out of light from the case [526].

Paulsen fails to teach the reflection as the result of silvering.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to create the mirrored surfaces [565] of Paulsen by silver plating since silver is known in the art as a highly reflective material which may be cheaply applied to efficiently redirect light.

31. Re claim 42: Although Paulsen fails to teach light emission limiting cavities, it would have been an obvious matter of design choice to arrange lens features such as cavities on the tube [526], since the applicant has not disclosed that the cavities solves any particular problem. It appears that the claimed invention would perform equally well without cavities, wherein the lens features as selected based on the output appearance of the case which will change based on the environment in which it is being used.

32. Re claims 45 and 46: Paulsen fails to teach the sensor casing being forked [claim 45] with the transparent casing part on at least one fork end [claim 46].

It would have been obvious to one of ordinary skill in the art to add the candle of Paulsen to the forked end of a forked sensor casing, since it has been held by the courts that a change in shape or configuration, without any criticality in operation of the device, is nothing more than one of numerous shapes that one of ordinary skill in the art will find obvious to provide based on the suitability for the intended final application. See *In re Dailey*, 149 USPQ 47 (CCPA 1976). It appears that the disclosed device would perform equally well shaped as disclosed by Paulsen.

33. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paulsen as applied to claim 29 in further view of West et al (US 6,679,621). The teachings of Paulsen have been discussed above.

Paulsen fails to teach the segments filled with sealing or casting compound.

West shows in figure 1b a lighting device [38] formed in a casting compound [32] with an upper surface [37] which reflects light from the light source substantially perpendicular to the optical axis of the lighting element.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Paulsen by using encapsulated LEDs with side emitting total internal reflection surfaces of West in place of the separate LEDS [550] and reflectors of Paulsen since one of ordinary skill would realize the encapsulated light emitter is more protected from damage.

Response to Arguments

34. Applicant's arguments filed 10/19/2009 have been fully considered but they are not persuasive.

35. On page 10 the applicant alleges that the various combinations of illumination of the LEDs discussed in Paulsen are unrelated to switching states of a sensor. The examiner disagrees. The applicant defines the sensor in claim 53 to include electrical switching devices. The examiner interprets these devices to include processors which electrically switch a plurality of transistors. The transistors each have an on or off state but they combine in the processor to produce a large plurality of switching states for the processor as a whole, each unique combination resulting in a different light output.

36. The applicant's arguments with respect to claim 53 are moot in view of the new interpretation of the claims necessitated by the amendment to the independent claim.

The applicant's arguments with respect to claim 54 are not persuasive for the same reasons as presented in section 35 above.

The applicant's arguments with respect to claim 55 are not persuasive for the same reasons as presented in section 35 above and as discussed in the rejection above based on the amended claim language.

37. The examiner further recommends the applicant carefully review the references included below as they include additional prior art which reads on the independent claims. These references were found upon an expanded search of sensors and indicators as necessitated by the amendments and remarks provided by the applicant which attempt to require more than an illumination device per se.

Conclusion

38. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Taylor et al (US 5,103,215) teaches a device for signaling status of machines or processes. The device [14] comprising a sensor [control system] comprising a plurality of switching states [at least one for each module 20 used]; a plurality of different colored lighting devices [modules 20-22] for the optical transmission of information regarding the sensor [control system attached to a machine or process], each lighting device having

at least one lighting element [80]; a sensor casing [30] including a transparent casing part for receiving the lighting elements [80] and for avoiding optical cross talk in the case of simultaneously active lighting elements; and at least one optical interface [67] subdividing the casing part into segments in which the lighting elements [80] are received and each segment including at least one lighting element; wherein each of the plurality of switching states [status signals] of the sensor corresponding to a unique combination of zero or more of the plurality of lighting devices having an active at least one lighting element; and wherein the transparent casing part is constructed and positioned so that the lighting devices are visible by a user from each azimuth angle within a polar angle range. [See figures and abstract]

Shafiyani-Rad et al (US 7,009,525) teaches a multi-angle viewable indicator apparatus.

Lynch (US 3,555,543) teaches a modular visual indicator having interlocking indicator based modules.

Kamei et al (US 6,674,416) teaches a small sized sensor having a level display unit 28.

Kamei et al (US 6,011,467) teaches a sensing device and display method therein.

39. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

40. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID R. CROWE whose telephone number is (571)272-9088. The examiner can normally be reached on 8:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on 571-272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DRC 12/22/2009

/Jong-Suk (James) Lee/
Supervisory Patent Examiner, Art Unit 2885